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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,923	02/27/2004	Shambhu Nath Roy		9185

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EXAMINER	
BOES, TERENCE	
ART UNIT	PAPER NUMBER
3682	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/788,923	ROY ET AL.	
	Examiner	Art Unit	
	Terence Boes	3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/09/2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

4a) Of the above claim(s) *12,15,16 and 19-38* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,13,14,17 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/27/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Claims 25-38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 02/09/2007.

2. Applicant's election with traverse of the species of figure 1 in the reply filed on 02/09/2007 is acknowledged. The traversal is on the ground(s) that several claims are generic among the species. This is not found persuasive because several of the claims are not generic to all the species.

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 12, 15, 16, and 19-24 each contain subject matter not disclosed in the elected species. Therefore, claims 12, 15, 16, and 19-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim.

Information Disclosure Statement

4. The examiner has not considered US 5,657,548, as the patent number appears to be a typographical error. The inventor provided by applicant does not match the inventor name of the actual patent. Additionally the subject matter of the US 5,657,548 is dissimilar to that of the present application.

Claim Objections

5. Claim 1-11, 13, 14, 17, and 18 are written in generally narrative form making it unclear which elements/steps are being positively recited and which should be given patentable weight. For example, claim 1 appears to only positively recite "...a base, a first actuator limb, at least second, third, fourth, and fifth actuator limbs, a first joint body, a second joint body, and an end component...". The examiner suggests rewriting the claims in accordance with 37 CFR 1.75(i) so as to make clear what elements/steps are being positively recited and what should be given patentable weight.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-11, 13, 14, 17, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Kock et al. WO 03/066289.

Kock et al. disclose:

- a base (see figure 11 below, M)
- a first actuator limb (see figure 11 below, C, N) comprising at least a platform (B) connected to said base by a revolute joint (see figure 11 below, D)
- a central axis, (see figure 11 below, A)
- a first limb member (see figure 11 below, C) movably connected to said platform with a single actuated degree of freedom relative to said platform,
- a second limb member (see figure 11 below, N) movably connected to said first limb member, said second limb member having at least three degrees of freedom relative to said base, wherein at least one of said degrees of freedom of said second limb member is actuatable relative to said base;
- at least second, third, fourth, and fifth actuator limbs (see figure 11 below, E-L), each of the actuator limbs comprising at least an actuator arm (E-H) rotatably connected to said base by an actuated revolute joint (D) allowing rotation about a respective actuator axis,

- each of said second, third, fourth, and fifth actuator limbs further comprising a forearm (see figure 11 below, I-L) movably connected to said actuator arm of the respective actuator limb, wherein said forearm has at least three degrees of freedom relative to said actuator arm including one free rotational degree of freedom about a respective forearm axis;
- a first joint body (see figure 11 below, upper portion of 7), wherein a second limb member is rotatably connected to said first joint body and allowed to rotate relative to said first joint body about a first joint axis, and wherein each of the forearms of said second and third actuator limbs is rotatably connected to said first joint body and allowed to rotate relative to said first joint body about a respective second and third joint axis which is non-parallel to said forearm axis of the respective actuator limb;
- a second joint body (see figure 11 below, lower portion of 7), wherein each of the forearms of said fourth and fifth actuator limbs is rotatably connected to said second joint body and allowed to rotate relative to said second joint body about a respective fourth and fifth joint axis which is non-parallel to said forearm axis of the respective actuator limb;

- said end component (7a) movably connected to each of said first and second joint bodies, the end component having at least two rotational degrees of freedom relative to each of said first and second joint bodies such that said end component is movable with at least five degrees of freedom relative to said base (P15/L2).
- wherein the actuator axis of each of said second and third actuator limbs is substantially coincident with said central axis (see figure 11).
- wherein the actuator axis of each of said fourth and fifth actuator limbs is substantially parallel to said central axis (see figure 11).
- wherein the actuator axis of each of said fourth and fifth actuator limbs is substantially coincident with said central axis.
- wherein said second and third joint axes are substantially parallel to each other and perpendicular to said first joint axis (because joints are ball joints there are numerous axis, therefore the claim limitation has been met).
- wherein said second and third joint axes are substantially coincident and perpendicular to said first joint axis and wherein said first, second and third joint axes and the forearm axes of said second and third actuator limbs pass through a first common point (because joints are ball joints there are numerous axis, therefore the claim limitation has been met).

- wherein said fourth and fifth joint axes are substantially parallel to each other (because joints are ball joints there are numerous axis, therefore the claim limitation has been met).
- wherein said fourth and fifth joint axes are substantially coincident and wherein said fourth and fifth joint axes and the forearm axes of said fourth and fifth actuator limbs pass through a second common point (because joints are ball joints there are numerous axis, therefore the claim limitation has been met).
- wherein said first limb member is connected to said platform by an actuated revolute joint allowing rotation about a primary axis, and said second limb member is connected to said first limb member by a revolute joint allowing rotation about a secondary axis, and wherein said primary axis, said secondary axis, and said first joint axis are substantially parallel to each other and perpendicular to said central axis (because joints are ball joints there are numerous axis, therefore the claim limitation has been met).

- wherein said end component is connected to said first joint body by a first and a second revolute joint in series allowing rotation about respective first and second revolute axes, and wherein said end component is connected to said second joint body by a third and a fourth revolute joint in series allowing rotation about respective third and fourth revolute axes (because joints are ball joints there are numerous axis, therefore the claim limitation has been met) .
- wherein said first revolute axis is substantially coincident with said first joint axis, and wherein said second revolute axis is perpendicular to said first revolute axis and intersects said first revolute axis and said central axis, and wherein said fourth revolute axis is perpendicular to said third revolute axis and intersects said third revolute axis (because joints are ball joints there are numerous axis, therefore the claim limitation has been met).
- wherein said forearm and said actuator arm of at least one of said second, third, fourth, and fifth actuator limbs are connected by a ball-and-socket joint (see figure 11).
- a work tool (53) movably mounted to said end component

- wherein the forearm of each of said second and third actuator limbs is connected to the respective actuator arm with three rotational degrees of freedom about a connection point, and wherein the connection points of said second and third actuator limbs substantially move in the same plane.
- wherein said second limb member is connected to said first joint body by a revolute joint allowing rotation about said first joint axis, and wherein the forearms of said second and third actuator limbs are connected to said first joint body by respective revolute joints allowing rotation about said second and third joint axes, and wherein the forearms of said fourth and fifth actuator limbs are connected to said second joint body by respective revolute joints allowing rotation about said fourth and fifth joint axes.

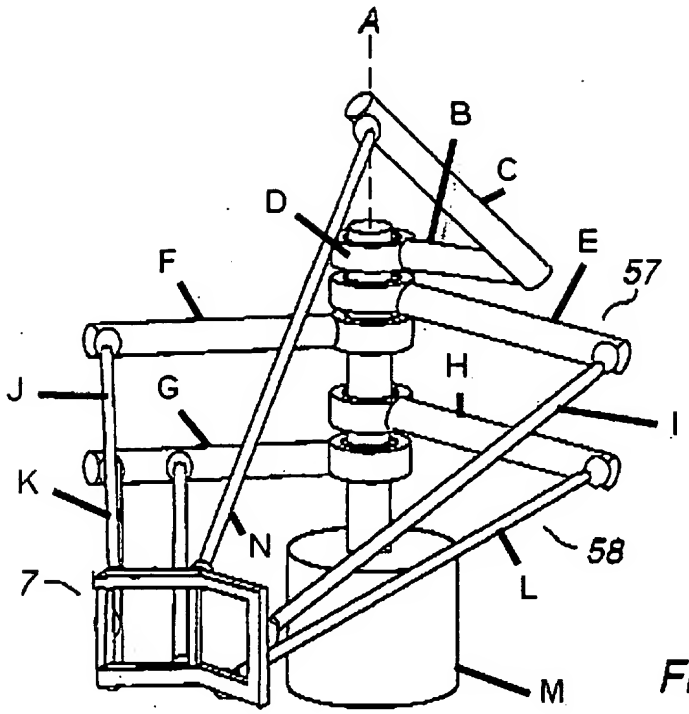

Fig. 11

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terence Boes whose telephone number is (571) 272-4898. The examiner can normally be reached on Monday - Friday 9:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TB
3/5/07

RICHARD RIDLEY
SUPERVISORY PATENT EXAMINER